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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,928	02/03/2004	Tomaz Dopico Varela	60,130-2033/01MRA0197	1651
26096	7590	01/05/2006	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			STORMER, RUSSELL D	
			ART UNIT	PAPER NUMBER
			3617	

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/770,928	VARELA, TOMAZ DOPICO
	Examiner Russell D. Stormer	Art Unit 3617

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 10-27 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 10-27 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 10, 15, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Pinch et al.

The axle mounting component 46a includes an interlocking feature in the form of a hole 68A, and the axle tube 62 includes an interlocking protrusion 70 extending into the hole. The protrusion 70 is a separate member which has been fusion bonded to the outer surface of the axle tube 62, and therefore is a first interlocking feature on the exterior surface of the axle tube.

3. Claims 10, 11, 17, 19, 20, 21, 22, 23, 24, 25, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Palovcik.

Palovcik discloses an axle assembly in which a bearing shoulder sleeve 52 is mounted to an axle tube. The outer surface of the tube and the inner surface of the sleeve form first and second interlocking features inasmuch as they tightly contact each other when assembled.

Being tubular, the surfaces would inherently include curved and convex surfaces.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10, 11, 12, 14, 16, 17, and 18 are rejected under 35 U.S.C. 103 as being anticipated by Dougherty et al in view of Spindler.

Dougherty et al discloses an axle assembly comprising an axle 12 and a flange 14 mounted thereto. The flange includes spline-like structures 16, 73, etc. which extend into similar structures in the outer surface of the axle tube as shown in figures 3a, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15a, 15b, 15c.

With respect to claim 11, note the bearing seat 110 in figures 15a, 15b, 15c. The abutting end of the flange would function as a bearing sleeve.

With respect to claim 12, it is inherent that the flange would be a brake flange.

With respect to claim 16, note the convex annular surface shown in figure 4.

With respect to claim 17, note figure 4.

With respect to claim 18, the inner surface of the flange would be non-cylindrical due to the formation of the splines.

The axle is not disclosed as a tubular member.

Spindler teaches an axle and flange assembly in which the axle may be solid or tubular. From this teaching it would have been obvious to form the axle of Dougherty et al as a tubular member in order to reduce the weight of the axle. Criticality of this feature has not been shown in the claims.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dougherty et al in view of Spindler as applied in paragraph 6 above and further in view of Swars.

Dougherty et al as modified by Spindler does not disclose the use of a material between the axle and the mounting member.

Swars teaches the use of a coating material between a mounting or mounted member 1 and the tubular member 2 to which the first member is mounted. See lines 64-69 of column 2 and lines 1-60 of column 3. From this teaching it would have been obvious to provide a material between the mounting member and the axle of Dougherty et al in view of Spindler in order to promote better adhesion between the two members, in addition to or instead of the weld 46 of Creek et al.

***Response to Arguments***

7. Applicant's arguments filed September 19, 2005 have been fully considered but they are not completely persuasive.

With respect to the rejection of claims 10, 11, 15, and 17 over either Pinch et al or Palovcik, the addition of the limitation that an exterior surface of the tubular member is "hydroformed" is given no patentable weight since the product claim must be found allowable by the structure of claimed invention, not the method by which it is made.

Further, Palovcik does disclose interlocking surface features inasmuch as they are very broadly recited. The angled surfaces of the bearing shoulder sleeve 52 and the mating outer surface of the axle tube are tightly fitted and therefore comprise such "features."

With respect to the rejection over Dougherty et al in view of Spindler, the question of how one would support the interior cavity of Dougherty et al during forging is irrelevant since forging or the lack thereof is not claimed. Further, there *is* motivation to modify Dougherty et al in view of Spindler as set forth in the previous office action.

The argument against the teachings of Swars is noted, but the motivation is clearly stated in the previous office action.

It should be noted that Applicant has not pointed out how new claims 19-27 define over the art of record as required by 37 CFR 1.111.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

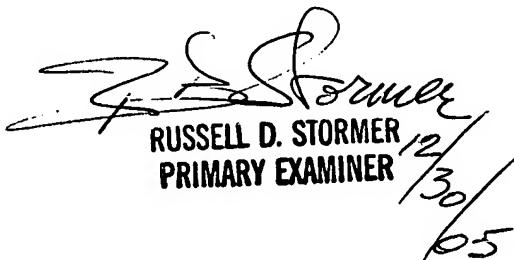
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell D. Stormer whose telephone number is (571) 272-6687. The examiner can normally be reached on Monday through Friday, 9 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Morano can be reached on (571) 272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/30/05

  
RUSSELL D. STORMER  
PRIMARY EXAMINER  
12/30/05